Name:_____

Math 2030, Winter 2011, Quiz 9
9 March 2011
R. Bruner

No calculators needed or allowed.

Let $R = [0,2] \times [0,1]$. Compute $\iint_R x + e^y \, dA$.

$$\iint_R x+e^y \, dA = \int_0^2 \int_0^1 x+e^y \, dy \, dx$$

$$= \int_0^2 xy + e^y \Big|_{y=0}^{y=1} \, dx$$

$$= \int_0^2 x + e - (0+e^0) \, dx$$

$$= \int_0^2 x + (e-1) \, dx$$

$$= \frac{1}{2}x^2 + (e-1)x \Big|_{x=0}^{2}$$

$$= 2 + 2(e-1) - (0+0)$$

$$= 2 + 2e - 2$$

$$= 2e$$